

VII.—*On a Third Collection of Lepidoptera made by Mr. H. E. Hobson in Formosa.* By ARTHUR G. BUTLER, F.L.S., F.Z.S., &c.

TOWARDS the end of last year I received a small box of Lepidoptera in envelopes from Mr. Hobson accompanied by a letter, of which the following is an extract :—

“Tamsiu,
September 6, 1883.

“DEAR MR. BUTLER,—Having just been transferred from this to the north, I am sending you what moths &c. I have annexed since arrival.

“I had an opportunity of visiting the south cape of the island early in the spring, and obtained the large butterflies down there. The moths are all from this end.”

The collection contained some well-known species previously received, and which Mr. Hobson requested me to forward to the Derby Museum; these species therefore are not included in the present list.

One of the most interesting additions to the fauna in the present consignment is *Hestia clara*, three examples of which (“the large butterflies”) were obtained in the south; an example of *Ornithoptera rhadamanthus* was probably taken at the same time.

The following is a list of the butterflies.

RHOPALOCERA.

1. *Hestia clara*.

Hestia clara, Butler, Trans. Ent. Soc. ser. 3, vol. v. p. 469. n. 6 (1867).

South Cape.

The type of this species was supposed to be from Java.

2. *Parantica aglea*.

Papilio aglea, Cramer, Pap. Exot. iv. pl. 377. E (1782).

S. Formosa.

3. *Ypthima multistriata*, n. sp.

Allied to *Y. nareda* and *Y. corticaria*, intermediate in size between the two. Wings above smoky brown, paler on the disk of the wings, especially in the female, and with blackish

submarginal and marginal stripes: primaries of the female with a large oval bipupillated ocellus towards the apex, the male rarely showing a trace of a similar ocellus, but usually entirely destitute of it: secondaries with a large circular unpupillated ocellus on the first median interspace, and frequently, in the male, one or even two minute subanal ocelli in an oblique line with the large ocellus: primaries of the male with a blackish nebula over the median area. Under surface sordid white, the primaries and base of secondaries more or less suffused with brown, and the entire surface of all the wings densely covered with numerous sharply defined darker brown striæ; marginal and submarginal stripes as above: primaries in both sexes with a well-defined bipupillated black subapical ocellus with pale yellow iris; a dark brown stripe from just beyond the middle of the costa across the disk to the termination of the submarginal stripe: secondaries crossed beyond the middle by an irregularly angulated stripe, sometimes barely traceable, but usually well defined; three well-defined ocelli, one apical and two subanal, the last being smaller than the others and bipupillated. Expanse of wings 37-42 millim.

Seven examples, N. Formosa.

The specimens of this species are for the most part more or less shattered, as though they had been long on the wing.

4. *Calysisme mineus*.

Papilio mineus, Linnæus, Syst. Nat. i. 2, p. 768. n. 126 (1766).

N. Formosa.

5. *Cyaniris puspa*.

Polyommatus puspa, Horsfield, Cat. Lep. E.I. Co. p. 67. n. 3 (1828).

A worn female, N. Formosa.

6. *Nychitona niobe*.

Pontia niobe, Wallace, P. Z. S. 1866, p. 357. n. 6.

N. Formosa.

One example has the apical spot better developed than usual, so that it looks like a pale specimen of *P. xiphia*.

7. *Terias unduligera*.

Terias unduligera, Butler, P. Z. S. 1880, p. 668. n. 22.

N. Formosa.

The external border of the secondaries appears to vary in width, as in the two males now received it is as wide as in

T. hecabe; they may, however, be hybrids between the two species.

8. *Terias hecabe*.

Papilio hecabe, Linnæus, Mus. Lud. Ulr. p. 249 (1764).

N. Formosa.

9. *Ganoris gliciria*.

Papilio gliciria, Cramer, Pap. Exot. ii. pl. 171. E, F (1779).

♀. N. Formosa.

10. *Ornithoptera rhadamanthus*.

Ornithoptera rhadamanthus, Boisduval, Sp. Gén. Lép. i. p. 180. n. 8 (1836).

♀. S. Formosa.

Owing to press of work it has been necessary to defer giving an account of the moths in this collection.

VIII.—*Note on the Detection of Polycystina within the hermetically closed Cavities of certain Nodular Flints.* By Surgeon-Major WALLICH, M.D.

IN continuation of my previous papers on the "Origin and Mode of Formation of the Cretaceous Flints"* I beg to announce the discovery by me, last summer, of a number of well-marked *Polycystina* amongst the loose fossilized contents of nodular flints obtained from the Surrey gravel-pits. In common with other observers I have often noticed minute objects in flint sections, which are, in all probability, the remains of these organisms; but in no instance were the appearances revealed by the microscope sufficiently distinct to place their identity beyond question. In the case of the structures now under notice there can be no doubt of the kind; and we are thus furnished with another interesting link in the chain of evidence which goes to prove the general lithological identity of the chalk with recent deep-sea calcareous deposits.

The genera of *Polycystina* met with in the nodular cavities are, for the most part, *Astromma*, *Haliomma* (both dis-

* Quart. Journ. Geol. Soc. for Feb. 1880, and Ann. & Mag. Nat. Hist. for Feb., March, and July 1881.